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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/079,703 05/15/98 MAYNARD

R 16436-709

QM12/0301

U P PETER ENG
WILSON SONSINI GOODRICH & ROSATI
650 PAGE MILL ROAD
PALO ALTO CA 94304-1050

EXAMINER

KLINE, E

ART UNIT

PAPER NUMBER

3763

DATE MAILED:

03/01/00

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/079,703

Applicant(s)

Maynard

Examiner

Eric Kline

Group Art Unit
3763



☒ Responsive to communication(s) filed on Dec 13, 1999

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) 1-30, 32, and 52-73 is/are pending in the application.

Of the above, claim(s) 1-22 and 52-73 is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 23-30 and 32 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Election/Restriction

During a telephone conversation with Peter Eng on June 2, 1999 a provisional election was made without traverse to prosecute the invention of II, claims 23-51. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-22, 52-73 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Allowable Subject Matter

The indicated allowability of subject matter a micro-fabricated transducer is withdrawn in view of the newly discovered reference(s) to Maynard, US Patent 5,405,337. Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 23-30, 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takayman et al., US Patent 5,624,380 in view of Maynard, US Patent 5,405,337.

The '380 patent teaches a shape memory catheter comprising a catheter body formed with a sidewall portion (7a, 7b), a shape memory alloy portion (11a-11e) positioned adjacent the catheter sidewall portion having a lattice network of individually configured shape memory alloy micro-actuators, and an addressable thin-film heater element (90, 91); micro-actuators are arranged in segmented joints (8a); including connecting rings (7a, 7b); includes at least one micro-actuator that expands (Fig 18); wherein that shape memory alloy portion includes at least one addressable heater element to heat a selected combination of at least one micro-actuator for varying the relative stiffness of the shape memory alloy portion and provide relative movement between conduit portions (column 1, lines 50-56); wherein the shape memory alloy portion may be thermally activated to have a different stiffness relative to the catheter sidewall portion (column 1, lines 50-56); wherein the shape memory alloy portion surrounds at least a portion of the catheter body (fig 24); includes a sensor (claim 9); includes a microprocessor unit that selectively activates the micro-actuators (column 6, lines 48-67); wherein the conduit forms at least a portion of a catheter (column 1, line 10); wherein at least one actuator has a substantially rectangular configuration with a buckled surface (Fig 18). The '380 patent does not teach the shape memory alloy being NiTi; wherein a conduit forms at least a portion of an introducer; wherein the conduit

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forms at least a portion of a cannula; wherein the actuator is aligned relatively lateral to the scaffolding; or a transducer.

The '337 patent does teach the use of NiTi as the shape memory alloy (column 9, lines 23); and a transducer (column 21, lines 14-29). It would have been obvious to one of ordinary skill in the art to modify the invention of '380 to include the NiTi alloy and transducers of '337. It is well known in the art to use NiTi alloy as a shape memory alloy and transducers would allow for feedback of the environmental parameters.

Furthermore It would have been obvious to one of ordinary skill in the art to use the invention of Takayama et al. in a various of medical devices such as a introducer and a cannula. It also would have been obvious to one of ordinary skill in the art to align some or all of the actuators in a lateral fashion to perform a bending at a different angle.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Kline whose telephone number is (703) 305-7350. The examiner can normally be reached on Monday-Thursday from 8:00am to 5:30pm. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wynn Coggins, can be reached on (703) 308-1344. The fax phone number for the organization where this application or proceeding is assigned is (703) 306-4520.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0858.


WYNN WOOD COGGINS
SUPERVISORY PATENT EXAMINER

February 25, 2000

Eric Kline 

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